

Claims

1. Device for transferring lollipops provided with a stick, comprising a transferrer, a first conveyor for supply of the lollipops to the transferrer and a second conveyor for discharge of the lollipops from the transferrer, wherein the first conveyor and the second conveyor comprise series of lollipop holders provided with first and second lollipop clamps, respectively, disposed on a first and a second conveyor line, respectively, such as a chain, to keep the lollipops, in particular the sticks, in a first orientation and a second orientation, respectively, wherein the first and second orientations are at an angle to each other, and wherein the transferrer is provided with third lollipop clamps and a holder for them, wherein the holder is disposed for moving the third lollipop clamps from a position for taking over the lollipops supplied by the first conveyor in the first orientation to a position for discharge of the lollipops in the second orientation to the second conveyor.
2. Device according to claim 1, wherein the first, second and/or third lollipop clamps are designed for clamping the sticks of the lollipops.
3. Device for transferring lollipops provided with a stick, comprising a transferrer, a first conveyor for supply of the lollipops to the transferrer and a second conveyor for discharge of the lollipops from the transferrer, wherein the first conveyor and the second conveyor comprise series of lollipop holders provided with first and second stick clamps, respectively, disposed on a first and a second conveyor line, respectively, such as a chain, to keep the sticks in a first orientation and a second orientation, respectively, wherein the first and second orientations are at an angle to each other, and wherein the transferrer is provided with third stick clamps and a holder for

them, wherein the holder is disposed for moving the third stick clamps from a position for taking over the sticks supplied by the first conveyor in the first orientation to a position for discharge of the sticks in the second orientation to the second conveyor.

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4. Device according to claim 1, 2 or 3, wherein the first and second orientation are approximately transverse to each other, preferably perpendicular to each other.

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5. Device according to claim any one of the claims 1-4 wherein the first orientation or second orientation is vertical.

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6. Device according to claim 4, wherein the first or second lollipop or stick clamps hold the lollipops in the vertical orientation with their heads hanging down.

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7. Device according to any one of the preceding claims, wherein the first conveyor is provided with first driving means for driving the first conveyor line for moving the first lollipop or stick clamps at a first speed, wherein the second conveyor is provided with second driving means for driving the second conveyor line for moving the second lollipop or stick clamps at a second speed, wherein the transferrer is provided with third driving means for driving the holder for moving the third lollipop or stick clamps at a third speed, wherein the third speed is higher than the first speed at the location where the lollipops are taken over by the transferrer.

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8. Device according to claim 7, wherein the second speed at the location where the lollipops or sticks are taken over from the transferrer is higher than the third speed.

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9. Device according to any one of the preceding claims, wherein the holder is rotatable about a fixed centre line.

10. Device according to claim 9, wherein at rotation the holder describes a conical surface with the third stick clamps, preferably having an inclined centre line, preferably a centre line at 45 degrees, wherein the orientation of the third lollipop or stick clamps continuously alternates between a horizontal and a vertical position during the circulation.

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11. Device according to any one of the preceding claims, wherein the third clamps comprise first and second metal, particularly steel clamps.

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12. Device according to claim 11, wherein the first clamp is L-shaped, and is hinged to the holder at the location of its corner, and of which the first leg at the end forms a first clamping surface, wherein third clamps comprise biassing means for biassing the first clamping surface to a second clamping surface provided on the second clamp, wherein the second leg of the first clamp is provided with a first cam follower surface for engagement of a stationary positioned cam, preferably comprising a roller, for rotation of the first clamp with respect to the second clamp.

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20. 13. Device according to claim 12, wherein the first cam follower surface is curved, preferably concave.

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14. Device according to claim 12 or 13, wherein the second leg of the first clamp is furthermore provided with a convex top fluently following the first cam follower surface, with which top the ultimate open position of the first clamp is defined.

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15. Device according to claim 14, wherein a second cam follower surface, which preferably is curved, particularly concave, follows the convex top.

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16. Device according to claim 15, wherein the chords of the arcs of the first and second cam follower surfaces enclose an obtuse angle.

17. Device according to claims 12-16, wherein the second clamp is stationary with respect to the first clamp.

5 18. Clamping device for holding products provided with sticks, such as lollipops, comprising first and second metal, particularly steel clamps, wherein the first clamp is L-shaped, and is hinged to a mobile holder at the location of its corner, and of which the first leg at the end forms a first clamping surface, wherein the holder comprises biasing means for biasing the first clamping surface to a second clamping surface provided on the second clamp, wherein the second leg of the first clamp is provided with a first cam follower surface for engagement of a with respect to the holder stationary positioned cam, preferably comprising a roller, for rotation of the first clamp with respect to the second clamp.

15 19. Device according to claim 18, wherein the first cam follower surface is curved, preferably concave.

20 20. Device according to claim 18 or 19, wherein the second leg of the first clamp is provided with a convex top fluently following the first cam follower surface, with which top the ultimate open position of the first clamp is defined.

25 21. Device according to claim 20, wherein a second cam follower surface, which preferably is curved, particularly concave, follows the convex top.

22. Device according to claim 21, wherein the chords of the arcs of the first and second cam follower surfaces enclose an obtuse angle.

30 23. Device according to any one of the claims 18-22, wherein the second clamp with respect to the first clamp is stationary attached to the holder.

24. Device according to any one of the claims 18-22, adapted for clamping a stick of a lollipop.

5 25. Device for conveying lollipops provided with sticks, comprising a conveyor having a driven conveyor line, such as a chain, on which a series of stick holders are disposed in line one after the other, wherein the stick holders are oriented for holding the lollipops substantially vertical with their heads hanging down during continuous conveyance.

10 26. Device provided with one or more of the characterizing measures described in the attached description and/or shown in the attached drawings.